

ABSTRACT

A sucrose phosphorylase (SP) having improved thermostability obtained by modifying a natural SP and a method for producing the SP having improved thermostability is provided. This SP having improved thermostability has an amino acid residue which is different from that of the natural sucrose phosphorylase, in at least one position selected from the group consisting of a position corresponding to position 14, a position corresponding to position 29 and a position corresponding to position 44 in motif sequence 1; a position corresponding to position 7, a position corresponding to position 19, a position corresponding to position 23 and a position corresponding to position 34 in motif sequence 2; and a position corresponding to position 19 in motif sequence 3, and wherein the enzyme activity of the SP having improved thermostability at 37°C, after heating the SP having improved thermostability in 20 mM Tris buffer (pH 7.0) at 55°C for 20 minutes, is 20% or more of enzyme activity of the SP having improved thermostability at 37°C before heating.